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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,658	12/17/2001	Kwang-Leong Choy	674505.2003	3227
20999	7590	10/24/2006		
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER PARKER, FREDERICK JOHN	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/024,658	<b>Applicant(s)</b> CHOY ET AL.	
	<b>Examiner</b> Frederick J. Parker	<b>Art Unit</b> 1762	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11-09-06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-72 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-69 is/are allowed.
- 6) ☒ Claim(s) 70-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-11-06 has been entered.

### ***Double Patenting***

2. The Terminal Disclaimer filed 9/11/06 was proper to overcome outstanding previous Double Patenting Rejections, which are accordingly withdrawn.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 70 is rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al US 5,344,676.

Kim et al teaches a method for applying nanodrops to a substrate to form a coating film or nanoparticles (= powder, col. 3, 23). A polymeric sol-type precursor material 9 comprises a decomposable base material with a solvent which is electrostatically sprayed as liquid droplets charged with a negative or positive polarity, and an electric field generated between the charged

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droplets and electrode needle 14 as described provides a corona spray because the electrons are produced by the electrode to flow and charge the droplets. The entire apparatus is contained within chamber 22 . The target area is heated by heater 34 to promote reactions and specific heating temperatures dependant upon the decomposition temperature of any precursor form the desired coating material. There must inherently be a decrease in temperature as a function of distance from the heated substrate towards the outlet. Solvent evaporation and precursor decomposition would have inherently occurred as atomized particles approach, and prior to contacting, the substrate to satisfy the requirement of forming a coating film or nanoparticles. Coating solution is transported/fed from supply 2 to the spray outlet using capillary tube device 10 .

Contrary to Applicants arguments, the reference contains each and every limitation of claim 70. The Examiner notes while Applicants assert the reference fails under 35 USC 102, it never specifically states why. The re-wording above makes the anticipation rejection clear.

5. Claim 72 is rejected under 35 U.S.C. 102(b) as being anticipated by Spiller US 3754975.

Spiller teaches a method of coatings a substrate by supplying a coating solution under pressure comprising a solvent and decomposable metal salt (“precursor compound”) which is sprayed (inherently involves “pressure feeding”) through a nozzle of a spray head onto the grounded, heated substrate to decompose the solution to form a coating, the heated substrate providing an increase in temperature from the spray outlet towards the heated substrate (and therefore inherently also a decreasing temperature gradient from the heated substrate towards the nozzle).

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The sprayed particles are guided by and adhere to the substrate by utilization of an electrostatic field between particles and substrate, the particle charging as described on col. 8, Example, etc.

Contrary to Applicants arguments, the reference contains each and every limitation of claim 72. The Examiner notes while Applicants assert the reference fails under 35 USC 102, it never specifically states why. The re-wording above makes the anticipation rejection clear.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness
2. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. Kim is cited for the same reasons previously discussed, which are incorporated herein.

Maintaining the field during cooling is not explicitly cited. However, it remains the Examiner's position that maintaining the electrostatic field during cooling of the applied coat would have been an obvious variation to maintain the particles applied in place to the heated substrate during the cooling process while additional volatiles are driven off. Furthermore, one of ordinary skill

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would NOT remove the field during the process of Kim because the decomposing droplets would not be attracted to the substrate and thereby defeating the teachings of Kim, so that removal of the field after the spray is completed and during the cooling process would have simply been an obvious variation within the purview of one of ordinary skill to provide completion of the coating process. It is well-established that the artisan is presumed to know something about the art apart from what the references disclose, In re Jacoby 135 USPQ 317; The conclusion of obviousness maybe made from “common sense” and “common knowledge” of the person of ordinary skill, In re Bozek 163 USPQ 545.

#### ***Response to Arguments***

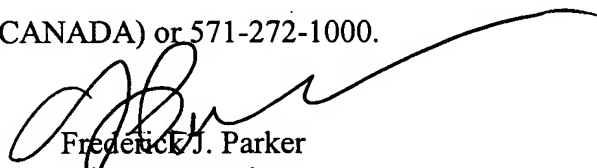
Applicants Remarks have been considered. Responses have been incorporated in rejections above for clarity and continuity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Frederick J. Parker  
Primary Examiner  
Art Unit 1762

fjp